

Map of New York Bay and Harbour. Two sheets, which complete the Map, the whole being composed of six sheets.—*From Prof. A. D. Bache.*

Journal of the Senate of the United States of America, being the First Session of the 28th Congress, begun and held in the City of Washington, December 4, 1843, and in the Sixty-eighth Year of the Independence of the United States. Washington, 1843. 8vo. *From the Hon. James Buchanan, Secretary of State.*

Journal of the House of Representatives of the United States. First Session, 28th Congress. Washington, 1844. 8vo.—*From the same.*

Public Documents, printed by order of the Senate of the United States. First Session, 28th Congress. Six Volumes. Washington, 1844. 8vo.—*From the same.*

Executive Documents. First Session, 28th Congress. Six Volumes. Washington, 1843, 1844. 8vo.—*From the same.*

Reports of Committees. First Session, 28th Congress. Three Volumes. Washington, 1843, 1844. 8vo.—*From the same.*

ADDITION TO THE LIBRARY BY PURCHASE.

Astronomische Nachrichten. No. 549, with Supplementary Number. 4to.

Prof. Frazer, on the part of the Committee on Major Graham's paper, reported progress.

Mr. Daniel B. Smith read a portion of a letter from Prof. Henry, of Princeton, that referred to a paper by Mr. Faraday, relating to a new discovery in regard to the polarization of light, and stating that he had repeated with success the experiments of Mr. Faraday.

Stated Meeting, January 16.

Present, twenty-six members.

Dr. CHAPMAN, President, in the Chair.

Letters were received and read:—

From the Perpetual Secretary of the First Class of the Royal Institute of the Netherlands, Amsterdam, dated July

25, 1845, informing the Society that Vol. XI. of the New Memoirs of the Institute was forwarded, and acknowledging the reception of the Proceedings of this Society, and of Dr. Dunglison's Eulogy on its late President, P. S. Du Ponceau, Esq:—

From Col. Totten, dated Washington, Jan. 8th, 1846, announcing a donation to the Library:—

From Professor Frazer, resigning the office of Secretary: and,—

From the Secretary of the Society for the Encouragement of Arts, dated London, 17th June, 1845, acknowledging the reception of the Proceedings of this Society, and of Dr. Dunglison's Eulogy on P. S. Du Ponceau, Esq.

The following donations were announced:—

FOR THE LIBRARY.

Abhandlungen der Königlich Gesellschaft der Wissenschaften zu Göttingen. Zweiter Band. Von den Jahren, 1842—1844. Göttingen, 1845. 4to.—*From the Royal Society of Göttingen.*

Nieuwe Verhandelingen der Eerste Klasse van het Koninklijk-Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten te Amsterdam. Elfde Deel. (Vol. XI.) Amsterdam, 1845. 4to.—*From the Netherlands Institute.*

Het Instituut, of Verslagen en Mededeelingen, uitgegeven door de Vier Klassen van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten, over den Jare, 1844. Nos. 3 and 4. 1845. No. 1. 8vo.—*From the same.*

The African Repository and Colonial Journal. Vol. XXII. January, 1846. No. 1. 8vo.—*From the American Colonization Society.*

The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. No. XXI. New Series. Jan. 1846. 8vo.—*From the Editor.*

The Medical News and Library. Jan. 1846. No. 37. 8vo.—*From Messrs. Lea & Blanchard.*

An Introductory Lecture, delivered before the Class of Institutes of Medicine, in Jefferson Medical College, November 3, 1845. By Robley Dunglison, M.D. 8vo.—*From the Author.*

The American Journal of Science and Arts. Conducted by Prof.

Silliman, B. Silliman, Jr., and James D. Dana. Second Series.
Vol. I. January, 1846. No. 1. 8vo.—*From the Editors.*

Annual Message of the Governor of Pennsylvania, transmitted to the Senate and House of Representatives, Jan. 7, 1846. 8vo.—*From C. B. Trego, Esq.*

Twenty-ninth Congress, First Session, House of Representatives, Document No. 2. Message of the President of the United States, to the Two Houses of Congress, Dec. 2, 1845. 8vo.—*From the Hon. Joseph R. Ingersoll.*

Twenty-ninth Congress, First Session, Senate, Document No. 13. Report from the Secretary of the Treasury, communicating a Report from the Superintendent of the Coast Survey, showing the Progress of the Work under his charge during the year ending November, 1845. 8vo.—*From Prof. A. D. Bache.*

The Committee on Major Graham's paper, on the Dip of the Magnetic Needle in 1842, 1843, 1844, reported in favour of its publication in the Transactions of the Society, and it was so ordered.

Dr. Patterson alluded to the letter of Prof. Henry, read at the last meeting, and read a portion of a second letter from the same gentleman, in which he describes the manner in which he had repeated the experiments of Mr. Faraday.

This consists in producing, in pure water and other liquids, a new arrangement of particles, by which they become possessed of the property of circular polarization, during the time a current of galvanism is circulating around them. The arrangement I employed was as follows:—A tube of glass was filled with pure water, and the ends closed with plates of glass; this was placed in the axis of an iron tube, and this again inserted into the axis of a coil consisting of about eight hundred feet of copper wire. The ends of the iron tube were closed with corks, through one of which was passed a Nicoll's prism, and in the axis of the other was fastened a plate of tourmaline. This tube being directed to the clear sky, and the tourmaline, which was placed next the eye, so turned that it presented a dark field of view, a current of galvanism from twenty-two cups of Daniell's battery was passed through the coil. At the moment of making the communication with the battery, the field became light; and when the circuit was broken, it again appeared dark. A slight rotation of the tourmaline also produced darkness while the galvanic

current was passing, which indicated a twist in the plane of polarization of the prolonged beam. The same effect was produced without the iron tube, but not to the same extent.

Dr. Boyé communicated to the Society the results of an Analysis of a Concretion from a Horse's Stomach, performed by Mr. Charles M. Wetherill and himself.

This concretion, for a fuller description of which, in connexion with its history, Dr. B. referred to his friend, Dr. B. H. Coates, by whom it was handed to him for examination, is remarkable for its size, weighing $11\frac{3}{4}$ lbs. It is of an oval shape, smooth surface, brownish-grey colour, and breaks in concentric layers of different degrees of thickness, exhibiting a fibrous or radiated structure. The outer layer alone was analyzed. The concretion was found, by Dr. Coates, to contain a nail in its centre.

By a qualitative examination, it was found to consist of phosphoric acid, magnesia, ammonia, chemically combined water, a small portion of organic matter, and silex. It contained no lime. In order to determine quantitatively these ingredients, a portion was dissolved in dilute hydrochloric acid; the insoluble residue collected on a counterpoised filter, dried and weighed; after incineration and weighing, it yielded *insoluble inorganic matter* 0.45 per cent., which, deducted from its former weight, gives *insoluble organic matter* 0.64 per cent.

To the filtered solution was added a weighed portion of iron wire, dissolved in nitro-muriatic acid, and the whole then precipitated by ammonia. Having previously ascertained the amount of peroxide of iron yielded by an equal portion of the same iron wire, the difference in weight of these two precipitates gave for the *phosphoric acid*, 32.40 per cent.

To the filtered solution from the phosphoric acid, was added caustic potash in excess, and the whole boiled until the ammoniacal vapours were effectually expelled, and the solution gave a strong alkaline reaction. The magnesia thus obtained was collected upon a filter, washed with boiling water, incinerated and weighed; it yielded *magnesia*, 14.45 per cent.

Another portion of the powdered concretion dried over sulphuric acid in vacuo at ordinary temperatures, yielded *hygrômetric moisture*, 1 per cent.; incinerated, it yielded *volatile matter* (water and ammonia), 51.70 per cent.

In order to determine the amount of ammonia, another portion of the powder was introduced into a small tubulated retort, with carbonate of soda and water. The neck of the retort was adapted to a small tubulated receiver containing dilute hydrochloric acid, and having adapted to its tubulure a nitrogen bulb, such as is used in ultimate organic analysis; this also contained dilute hydrochloric acid. The mixture in the retort was evaporated to dryness; and at the close of the operation, air was drawn through the apparatus to insure the absorption of the last portion of ammonia. The *ammonia* thus obtained was estimated by precipitation by chloride of platinum, as in organic analysis, and yielded 0.71 per cent.

Hence the composition of the concretion is as follows:—

Phosphoric acid,	-	-	-	32.40	per cent.
Magnesia,	-	-	-	14.45	„
Water,	-	-	-	50.35	„
Ammonia,	-	-	-	.71	„
Insoluble inorganic matter,			-	.45	„
Insoluble organic matter,	-		-	.64	„
Hygroscopic moisture,	-		-	1.00	„
				<hr/>	
				100.00	
				<hr/>	

It will be seen from this, that the amount of ammonia is too small to be considered an essential ingredient of the concretion. Assuming it to exist in the state of double phosphate of ammonia and magnesia with water (NH_4O , 2MgO , $\text{PO}^5 + 2\text{HO} + 10\text{HO}$), and deducting the amount of this salt from the rest (omitting the insoluble matter and hygroscopic moisture), it will be seen that the concretion is composed mainly of the phosphate of magnesia and water, according to the following formula $3\text{MgO} + 3\text{HO} + 2\text{PO}^5 + 21 \text{ aqua}$, as will be seen from the following comparison:—

By Experiment.		By Calculation.	
Phos. acid,	33.56	2PO^5 ,	33.70
Magnesia,	14.55	3MgO ,	15.20
Water,	51.89	24Aq.	51.10
<hr/>		<hr/>	
100.00		100.00	
<hr/>		<hr/>	

Dr. Coates mentioned some of the symptoms which attended the formation of this concretion, and that it had not been re-

marked as producing inconvenience to the animal, till a week before its death. Dr. Coates supposed it was found in the cœcum, and not in the stomach. This inference was drawn partly from the authority of Berzelius in cases of similar concretions, and partly from anatomical and physiological considerations. Dr. Coates mentioned also, that he had found the tricocephalus in the human cœcum after death.

The list of the surviving members of the Society was read; from which it appears, that the whole number is 353. Two hundred and forty-six reside in the United States, and one hundred and seven in foreign countries. Ten deaths have been announced to the Society during the year.

Mr. George Ord was reëlected Librarian.

The following standing Committees were appointed:

Of Finance.—Mr. C. C. Biddle, Dr. Patterson, Mr. Lea.

Of Publication.—Mr. Lea, Dr. Hays, Mr. J. F. Fisher.

On the Hall.—Mr. Campbell, Mr. Fraley, Mr. Kane.

On the Library.—Dr. Hays, Mr. Campbell, Mr. Penington.

The Society then proceeded to ballot for new members.

The Committee appointed to take charge of the claim of the Executors of the late Nathan Dunn, against the Society, made a verbal report, and requested to be discharged, to which the Society consented.

The business of the evening being concluded, the ballot boxes were opened, and the following gentlemen declared by the presiding officer to be elected members of the Society:

HENRY HOLLAND, M.D. F.R.S., of London.

Professor JOHN MULLER, of Berlin.

Hon. JAMES BUCHANAN, of Lancaster, Pa.